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ABSTRACT

Federal action that has influenced, either directly or indirectly, the curriculum of higher education is examined. The purpose is to better comprehend the process by which educational policy decisions are reached by the government and what institutions of higher education have to do with this process. A review of recent federal funding programs in relation to degree expectation by field and level (in 1975-76 and projected to 1985-86) shows a positive correlation between fields receiving significant federal support and tendency of students to choose those fields, as well as a decline in students majoring in selected fields that lack federal support. It is noted that the federal government is increasingly considered the major spur to educational innovation, although funding levels for innovation in nonscientific fields and for encouraging institutional diversity are extremely low. A result has been the compelling vocational thrust of the contemporary undergraduate curriculum in private and public institutions, and, unintentionally, a decline in general education. Several recommendations are offered, including that: (1) there is a need for federal policy initiatives to be developed regarding the impact of federal funding on college and university curricula, and (2) institutions of higher education should evaluate whether they are relying too heavily on federal initiatives to define their educational mission. (Author/MSE)

Report One 1980

FEDERAL INFLUENCE ON HIGHER EDUCATION CURRICULA

William V. Mayville

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Federal Influence on Higher Education Curricula

William V. Mayville

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Foreword

In the final report of the Carnegie Council on Policy Studies in Higher Education, entitled *Three Thousand Futures: The Next Twenty Years for Higher Education,* several concerns are expressed. Among these it is feared that:

> . . . the heavy hand of government may tend to a homogenization of policies and practices that will stifle the new efforts at distinctive styles and approaches.
>
> That equality of results by regulations may gradually come to replace equality of opportunity in fair competition; the former reducing and the latter elevating average performance (1980, p. 137).

This fear is a direct result of the increased role that the federal government has been playing in higher education over the last two decades. At first this role was primarily a passive, helping role. The establishment of student-aid loan programs, the availability of unrestricted institutional aid, and funds made available to help in the building of new facilities. Later this role became more direct as the federal government made funds available to promote national policy. Examples of this type of aid are categorical research grants and student aid designed to increase enrollments in specific academic areas. To many it seemed that during the 1970's the federal role in higher education turned from a helping hand to a clenched fist, using aid as a tool to further federally-mandated social goals. This was especially true in promoting equal educational opportunity for minorities, women, and the handicapped.

Previous examinations of this increased federal role have primarily been in the management and financing of the institutions. Great concern has been expressed over the increased number of forms to be filled out, expensive management procedures for accountability, and the centralization of authority. What has received lesser attention is the impact on the curriculum.

This impact on curriculum has been less obvious for several reasons. First, the design and implementation of the curriculum is an institutional responsibility and therefore the federal government has been careful not to establish any overall policies or set of priorities for the curriculum. Second, the primary purpose of much of the federal action has been directed toward student access or to manage-

ment accountability, and thus the impact on curriculum has been indirect, and in many cases unintentional.

However, despite overall intentions, federal action has had, either directly or indirectly, significant influence on the curriculum of higher education. In this report, William V. Mayville, research associate with the ERIC Clearinghouse on Higher Education, has identified many of the direct and indirect effects that federal action has had on the curriculum. Dr. Mayville has added clarity to this area by first examining the institutional context for curricular change and then reviewing specific federal programs, showing how over a period of time, they have had significant impact on student choice of curricula.

Especially with the creation of the new Department of Education, it is probable that the federal role in higher education will increase rather than decrease in the future. It is therefore important for institutions to be aware of this curricular influence and to establish methods to guide and control it. In his conclusions, Dr. Mayville offers several recommendations that may help to insure a more compatible partnership between the higher education curriculum community and the federal government.

Jonathan D. Fife, Director
ERIC® Clearinghouse on Higher Education

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Overview

This paper examines federal action that has influenced, either directly or indirectly, the curriculum of higher education. The purpose is to better comprehend the process by which educational policy decisions are reached by the government and what institutions of higher education have to do with this process. The interaction of higher education institutions with their environment through the instrumentality of curricular initiative would seem a given in a democratic social structure pledged to institutional autonomy and a laissez-faire economic system. Yet institutions of higher education in the United States have not only become increasingly passive since the mid-nineteenth century in the area of curricular development, but also reactive to external pressures to reform and restructure that have little to do with institutional mission or purpose. The nature and extent of federal action vis-a-vis the curriculum in higher education, though still open to debate, is becoming clearer and can be traced historically.

Federal influence on curriculum is typified as both direct (legislative and indirect (regulatory). Federal education legislation, dating from the Morrill Act of 1862 to the present, has taken three directions: expanding the scope of vocational/technical and scientific higher education and extending the educational franchise to underserved segments of the populace. These three legislative areas are examined, as is the recent tendency of federal education legislation to become part of omnibus bills cutting an extremely broad educational path. It is suggested that the growing need for national planning has fostered a greater role for the federal government in the higher education sector, precipitated the formation of the new Department of Education, and had a profound influence on the curriculum of higher institutions.

Federal regulations are examined that impinge on the academic workplace and pertain to (1) auditing procedures, (2) threats to academic freedom by public control of controversial research, (3) civil rights regulations that cause curricular displacements, (4) and the governmental definition of academic progress that threatens special institutional programs. The increasing control of higher education by the government is based on federal assumption of responsibility

to ensure educational legislation in the public interest and to ensure accountability for use of public money.

Institutions of higher education are susceptible to such curricular displacement in the absence of strong institutional guidelines on the nature of general education, which, in the past, has given curricular coherence to the undergraduate college. Thus, the contemporary college and university curriculum in an arena of competing interests, none of which has provided a semblance of curricular orderliness. The vulnerability of higher education institutions to external curricular control, both direct and indirect, is due to the politicization of the higher education sector, the inability of institutions to satisfactorily define the undergraduate curriculum, the expansion of the public education ideal (practical/vocational purposes of education), and the lack of institutional resources.

An examination of recent federal funding patterns in relation to degree expectation by field and level (in 1975-76 and projected to 1985-86) shows a positive correlation between fields receiving significant federal support and tendency of students to chose those fields, as well as a decline in students majoring in selected fields (humanities, in particular) that lack federal support. While no cause-and-effect relationship is necessarily implied, these correlations should be studied.

It is also observed that the federal government is increasingly considered the major spur to educational innovation, although funding levels for innovation in nonscientific fields and for encouraging institutional diversity are extremely low.

It is concluded that federal support is crucial to both public and private higher education. Without strong curricular leadership by institutions, government funding priorities have helped shape institutional curricular emphases and played a role in defining the outcomes for both private and public higher education. The result has been the compelling vocational thrust of the contemporary undergraduate curriculum in private and public institutions. Unintentionally abetted has been the decline of general education as a premise on which to build a coherent undergraduate experience based on institutional goal statements.

Several recommendations are offered regarding the influence of government on the curriculum of higher education:

- Policy initiatives should be developed by the federal government that take into account their potential and actual impact on college and university curricula.

- The federal government representatives should study the implications of federal regulations for the curriculum in concert with representatives from the higher education community before these regulations are implemented.
- Colleges and universities should take the initiative in articulating more forcefully ideas about the purposes of education in a democracy and seek funds that support curricula to realize these purposes.
- Institutions and the federal government should evaluate whether serving the public purposes of education by encouraging curricula that will produce needed manpower does at the same time support the national goal of a well-educated citizenry capable of making decisions in the best interests of themselves and the democratic society in which they live.

Direct and Indirect Federal Curricular Influence

The impact of federal action on higher education curricula should be a concern of those who speak for the higher education community at the national, regional, state, and local levels. Frederick Lane, a political scientist at Baruch College, C.U.N.Y., believes

> There is no facet of American higher education today that is not significantly influenced by government: who attends college, *what is studied*, which faculty are hired, *which public service activities are undertaken*, what facilities are constructed, *and the quality of instructional* and other *services* delivered (emphasis added) (1978, p. 136).

In the absence of a ministry of education, curricular development in the United States in the past has been a matter of individual proclivity on the part of philanthropists, college presidents, and faculty, and in the present of realizing social, political, and economic goals on the part of the federal government. Frederick Rudolph (1977, p. 197) comments that the last great institutional statement of curriculum uniformity and symmetry was the *Yale Report* of 1828. After that, order and certainty in higher education institutions in the United States became more a function of the bureaucracy that held the curriculum together, which bureaucracy became "the illusion of structure in a course of study that was close to being an expression of chaos" (Rudolph 1977, p. 197).

The shaping of the present curriculum in institutions of higher education can be explained as not the result of intentional planning and foresight by colleges and universities but rather as a consequent of external social and economic forces, related to national manpower needs, that often were in conflict with stated institutional purposes, especially in the area of curricular design and mission.

University Role, Manpower Needs, and Curricula

Reflecting on the contemporary university, Eric Ashby sees it as a victim of its own good fortune:

> It is now recognized that the study of intellectual systems supports the whole structure of modern socitey. Universities, therefore find themselves in the embarrassing position of holding a monopoly. To enter the professions, to rise in the social scale, to acquire power: these aspirations nowadays are difficult to fulfill without a higher education. Almost the only kind of world success which is independent of the uni-

> versity monopoly is money-making. So practically everyone now wants a college degree and the phrase "mass higher education" has come to represent a sort of human right (Ashby in McMurrin 1976, p. 19).

Given the apparent self-evidence of Ashby's view, it is little wonder that students would look to manpower needs to determine their curricular choice. Ahamad and Blaug, editors of *The Practice of Manpower Forecasting* (1973, p. 322), suggest that manpower forecasting has not been especially useful for educational decisionmaking and on occasion has been positively misleading. Breneman (1975, p. 135) asserts that in the United States manpower projections are not used for centralized manpower planning (the allocation of so many students to certain fields or the allotment of space in universities); rather, we rely on decentralized decisionmaking and random selection. Lane (1978, p. 142) sees that the connection between universities and political institutions have alerted the public to the importance of American higher education: "The result is what Edgar Litt calls the public vocational university, one that is supported by federal funds, directed by governmental decisions, and dedicated to the production of applied knowledge and trained manpower useful to national political and economic leaders" (Lane 1978, p. 142).

A possible scenario for external curricular control was suggested by the economist Richard Freeman (1971). He believes the college educated manpower market can be manipulated to achieve social benefits and suggests that a committee of manpower specialists, comprised of employers, professional associations, government, and academic institutions, could determine manpower shortage areas as reflected in salaries, projected expenditures, etc. Based on this information, "manpower shortage fellowships could be set up" designed to induce additional students into those fields; also, "subsidies given to surplus occupations would be reduced and, if necessary, special retraining programs established to help experienced workers shift to new fields" (p. 115). Freeman further believes that it is possible to predict the response of the market to policy but that the chief problem is to devise a *rational* set of priorities and goals (p. 229) (emphasis added).

Obviously, Freeman's approach had already been used by the government when the National Defense Education Act legislation, in combination with a projected teacher shortage, prompted large numbers of students to choose teacher education curricula.* When it was

*In the NDEA was the National Defense Student Loan (NDSL) program. The loans had a forgiveness clause for people who entered the teaching field. This clause encouraged a large number of students to select "education" programs.

discovered, and publicly announced, that a surplus of teachers existed, students began to shy away from education as their future occupation, presumably shifting to other, more promising fields. Thus, projections of underemployment in the humanities and social sciences over the next eight or nine years may also have the effect of causing students to reflect on the wisdom of loyalty to these subject areas.

A response to the marketplace dilemma facing students is for institutions to reflect directly through curricular offerings what many students want to study. For example, in 1974-75 several member institutions of the Council for the Advancement of Small Colleges (CASC) analyzed mechanisms such as annual enrollment figures, selection of student majors, and attrition analyses to determine trends in their student clientele — students being referred to as consumers of the product, education. One participant in the CASC Workshop (titled "Why Consider Curricular Evaluation and Change") discovered at his own institution that "adults and young people think developing career-related skills is the most important single objective of a college education" (Winkelman 1977, p. 5). The implication of such a study suggests that an institution should offer a major in sociology if enough students want to go into social work; and if there is an abundance of teaching perhaps teacher education programs should be cut back. To complete the market analogy, Winkelman (1977, p. 7) observes that "the experts in commercial activity suggest that the organization which is the most adaptive to the market is the one which will survive in the strongest position."

This striking example of the relativity of curricula to marketplace perceptions makes it all the more crucial to focus on the federal role in shaping demands for college and university graduates in specific fields, especially in terms of the implications for fields not receiving much support and in terms of its effect on institutional goal formation.

Rationales for Federal Influence on Curricula

A curriculum can be thought of as a fixed sequence of courses that prepare a student to pursue a given field of study; or as all the courses a college offers or all the courses a student takes in any given subject. If the college or university curriculum is responsive to federal priorities, then it might be assumed institutions have articulated their goals so that they can accede to and are willingly subordinated to the curricular direction supplied by the government to the benefit of

all segments of the higher education enterprise, society being the ultimate beneficiary.

But, it has been maintained (OECD 1971, p. 21) that federal support for education in the United States is not subject to definition in relation to a single unified plan. Instead, federal support is represented as "a collection of individual programs and provisions, each enacted into law to support or accomplish a specific purpose" (Grant and Lind 1978, p. 149). Breneman and Finn (1978, p. 33) observe that:

> The sheer number and variety of programs undertaken by the national government to support the higher education industry . . . indicates that Washington has never made a straightforward commitment to support higher education per se and has refrained from adopting individual universities as national responsibilities. Aside from the military academies and a handful of other exceptions, federal support has stopped short of general-purpose subsidies such as those the states provide for their public campuses. Instead, one categorical program has followed another, each purchasing a particular service. Although these purchases range from the schooling of low-income students to the conduct of research in particle physics, and although individual institutions may amass tens of millions of dollars a year from diverse federal sources, Washington's stated purposes remain limited and discrete.

It is a commonplace to think of federal programs coming into existence to satisfy specific and mutually perceived national problems or needs that compel the government to act in a way to deal with or eliminate them. Based on this premise, it would seem reasonable to conclude that federal support for education yields no overall pattern or master plan but instead is characterized by a kaleidoscopic array of programs and activities. If this is true, then colleges and universities, by responding to federal priorities, have contributed greatly to their own lack of curricular direction, assuming Rudolph's premise that there is an absence of core belief about what constitutes curricular coherence for their students.

The influence of federal action on the curriculum finds its rationale and is typified by: (1) the need for direct federal intervention for the public good, such as funding for purposes of national defense, public health, or social (extending the educational franchise) or institutional vitality (promoting diversity and innovation); and (2) the need to provide accountability measures to insure public money is spent in responsible ways through federal regulations, often with broad social implications, to which recipients of federal monies must adhere.

Direct Federal Intercession pro bono publico: Legislation

Direct federal action in the public interest led to the creation of land-grant colleges (the Morrill Act of 1862) and public black colleges (Morrill Act of 1890), as well as to the formation of a variety of institutes and agencies, like the National Institutes of Health (1930), the National Science Foundation (1950), the National Foundation for the Arts and Humanities (1965), and the Fund for the Improvement of Postsecondary Education (1973). All of these federal initiatives encouraged curricular innovation and improvement by either providing resources for specific subject fields or for general areas of curricular development, such as interdisciplinary study, international education, and courses and programs under the rubric of "lifetime learning," or "adult education."

Initially, federal support for education took the form of giving public land to maintain public schools, the first grant being authorized by the Congress of the Confederation in 1785. Two years later, more federal land was given for educational purposes, this time under the Northwest Ordinance. In this instance, the U.S. Government contracted to sell land in Ohio, where a part of each township was to be set aside for schools, and additional land used for establishment of a university. After that, legislation affecting college and university took four directions: (1) the creation of vocational/technical programs or institutions to provide such programs; (2) extending the educational franchise, originally in conjunction with satsifying the vocational/technical needs of the nation; (3) promoting scientific research, especially for purposes of medical progress or national defense; and (4) passage of comprehensive laws that signifies the importance of federal support for all types of programs, and implies the development of national policy toward higher education that is much more focused than legislation in support of any single program or activity.

Vocational/Technical — The first federal action with curricular implications was the passage of the Morrill Act of 1862.* The intent of the legislation was to establish colleges where "such branches of learning as are related to agriculture and the mechanical arts" would be pursued by the industrial classes ("A Compilation . . ." 1977, pp. 519-520). The act provided 30,000 acres of government land to each

*The exception to this, of course, was the prior founding of the U.S. Military Academy in 1802, and the subsequent establishment of the U.S. Naval Academy in 1845. Both academies had a scientifically-oriented curriculum: engineering at West Point, and marine science at Annapolis.

eligible state (nonsecessionist) based on population as reflected in the number of congressmen and senators the state had. The curriculum was meant to cover subjects related to agriculture and the mechanical arts ". . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." The curriculum was also to include other scientific and classical studies; and including military tactics (since the Civil War was in progress, the training of officers was a national priority,** and these institutions were intended to satisfy this and other national manpower needs).

The essence of the Morrill Act, then was: (1) the establishment of land-grant colleges in the states that had not seceded from the Union, and (2) the provision of educational opportunity at the higher-education level for the "industrial classes," defined at the time as farmers and mechanics. Implicit to that definition is a distinction between the professional classes, whose education was presumed to have a different social function (the training of leaders), and therefore a different curricular focus (literary), and the working classes, i.e., the urban and rural workers, whose curricular needs were delineated in the act to be "practical."

The population of industrial classes eligible for higher education in 1862 was extremely small. In 1870, only two percent of persons 17 years and older had graduated from high school; 20 percent of the population over 20 years old was illiterate (79.9 percent of this number were "Negro and other") (U.S. Department of Commerce 1976, p. 382). Only 7,064 boys graduated from high school in 1870, while 9,593 males obtained their baccalaureate in 1874. These figures mean many baccalaureate recipients had not finished high school (Jencks and Riesman in Touraine 1975, p. 27). Thus, the land-grant colleges had a small segment of the population to draw from, or at least who were qualified for some form of college work.

Futhermore, students were reluctant to begin their college studies in agriculture. For example, Minnesota adopted the provisions of the Morrill Act in 1863 but its first agriculture students did not matriculate until 1889 (Madsen 1976, p. 36). Questions besetting programs in agriculture were: Was the land-grant college essentially a teaching or a research institution? Were college farms to function primarily as sources of revenue, as training grounds for future farmers, or as

**Rainsford (1972, p. 9) commented that "With the mounting casualties of the first battle of Bull Run, Shiloh, and Pea Ridge, and with McClellan in the midst of the carnage of the Peninsula campaign, the North realized it needed trained soldiers."

demonstration facilities for the introduction of new techniques? And would graduates be willing to return to farms after their taste of the outside world, or would the new colleges have the effect of weaning the future farmers away from the soil? (Madsen 1976, p. 36). Also, there was no firm scientific base for agricultural experimentation and development in the U.S. until the Hatch Act of 1887, which provided for the establishment of experimental agricultural stations. In actuality, students of every social background enrolled in land-grant colleges and took subjects that often were more of a literary than practical nature, which was a reflection of the training of their teachers (Madsen 1976, p. 35). This curricular oscillation between notions of liberal learning and practical training set the stage for subsequent debates within the institutions of higher education over the appropriateness of vocational subjects at the undergraduate level.

The Morrill Act of 1862 thus had created institutions to fill the North's need for technically trained manpower, for training of soldiers, and for agricultural experts, and was based on an implicit assumption that the working classes needed their own type of institution different from those that turned out the professional classes. Their creation can be thought of as an initial stage in the development of an integrative class culture.

The First Morrill Act also represented a change in federal policy from making grants-in-aid to education in general to grants-in-aid for specific types of education. Blauch (1935, p. 38) commented that federal grants were a means by which the government cooperated with the states in activities not mentioned in the Constitution as falling within its purview. Some of the purposes of grants identified by Blauch are: to mitigate inequities under the system of taxation employed; to encourage state and local expenditures in the national interest; and "to make possible the enforcement of a national minimum of certain types of activities and results" (p. 38). It has been pointed out that, historically, federal aid acted to stimulate local initiative (Wiggins 1966, p. 205).

The Second Morrill Act of 1890 was again directed to "the maintenance of agricultural colleges," this time targeting federal monies "to be applied only to instruction in agriculture, the mechanic arts, the English language and the various branches of mathematical, physical, natural, and economic science, with special reference to their applications in the industries of life, and to the facilities for such instruction" ("A Compilation . . ." 1977, p. 522). This act also stated that distinctions of race or color would negate the award of

money to institutions; if, on the other hand, a state justly and equitably divided its funding under this act, then such institutions set up especially for blacks would be entitled "to benefits of this act and subject to its provisions," just as if they already has been included under the First Morrill Act of 1862 ("A Compilation . . ." 1977, p. 522).

The early forms of federal legislation in the twentieth century also were primarily vocational and occasionally were related to curriculum support in the areas of agriculture, industry, home economics, and various trade skills. Such legal statutes included: the Smith-Lever Agricultural Extension Act of 1914; the Smith-Hughes Vocational Act of 1917; the Vocational Rehabilitation Act of 1918; the Civilian Conservation Corps program of 1933 (whose educational services were supervised by the U.S. Office of Education); the Wagner-Peyser Act of 1933 (that created the U.S. Employment Service and gave the authority for public employment service to the states, but retained its program of research advising, standard setting, and information gathering and dissemination); the George-Deen Act of 1936 (that extended federal aid to public schools for vocational education); the Barden-La Follette Act (that expanded the program of civilian vocational rehabilitation); the Disabled Veterans Rehabilitation Act of 1943; the Serviceman's Readjustment Act of 1944*; and the George-Barden Act of 1946 (which liberalized federally appropriated funds for vocational guidance purposes).

Recent legislation in support of vocational/technical programs include the Vocational Education Act of 1963 (P.L. 88-210), which gave increased support to vocational education, including support of residential vocational schools, vocational work-study programs, and research, training, and demonstrations in vocational education; and the Education Facilities Act of 1963 (P.L. 88-204), which made available grants and loans for classrooms, libraries, and laboratories in public community colleges and technical institutions as well as undergraduate and graduate facilities in other institutions of higher education.

The Vocational Education Act of 1965 and its completing amendments in 1968 greatly augmented subsidies to vocational schools. Unfortunately, this encouraged the rapid development of technical and vocational schools by sector, "setting them apart from the community colleges, who then abandoned their all-purpose curricula and often entered into competition with them" (Touraine 1974, p. 107).

*Some cite the G.I. Bill as the turning point in massive federal support to higher education by student funding.

Expanding the Educational Franchise — Frederick Rudolph observed that the ultimate question for curriculum designers in America was whether or not the society was to be governed by an elite, and how far the concept of equality was to be carried out in providing courses of study appropriate not just for the few but for the many (1977, pp. 14-15). He suggests that by deliberate action the American people expanded their concept of who was to be given the opportunity for education and on what levels: so that in the nineteenth century the primary level was to be available to all; in the early decades of the twentieth century the secondary level was to be inclusively available; and since World War II, higher education was to be available to all who chose to pursue it.

Rainsford (1972) sees the changes in the pattern and function of education toward mass education as occurring because of changes in the philosophy of the government:

> Because the American government today is democratic and popular, public education is concerned principally with equalizing opportunity and creating minimum standards. It is primarily directed to the strengthening of mass education so that the benefits of education may be spread more widely (p. 23).

The federal government has had a long-standing interest in extending the educational franchise to underserved populations. This point is borne out by passage of the two Morrill Acts and subsequent legislation in the area of vocational curriculum development and support to agricultural research, as well as student-aid legislation, first provided in the Education Amendments of 1958 and then augmented in the Education Amendments of 1965 and 1972. Recent sources of influence that relate to inclusivity of student clientele and the government's role have been identified by Wolanin and Gladieux (1976, pp. 43-56), the Carnegie Commission report, *Quality and Inequality: New Levels of Federal Responsibility for Higher Education* (1968), the Alice Rivlin report, *Toward a Long-Range Plan for Federal Financial Support of Higher Education* (1969), and the report of the Newman Task Force (1971) to the Secretary of Health, Education and Welfare.

To these must be added the *Second Newman Report: National Policy and Higher Education* (1973) and *Financing Postsecondary Education in the United States,* published by the National Commissoin on the Financing of Postsecondary Education, and mandated by the Education Amendments of 1972.

The Second Newman Report, among other things, stressed the need for diversity to accommodate new kinds of students in higher educa-

tion. It was observed that a variety of different institutions had sprung up: open universities, single-purpose institutions, experimental subcolleges, ethnic colleges, urban learning centers, cooperative programs, off-campus internships, and others. This flowering was seen as a positive development. The problem was that few students enrolled in programs at these institutions. The importance of encouraging the diversity has to do with fostering entrepreneurial experimentation to provide vitality to both the public and private sector. These new institutions often had to develop new curricula to serve the new student clientele, especially in the basic skill/developmental studies area. The new curricula led to a proliferation of degree titles to reflect the emphasis on individually-designed degree programs often incorporating nontraditional, nondisciplinary-based learning experiences.

In light of this emphasis on student-centered institutions, *Financing Postsecondary Education* articulated what has been called the "new meaning" of higher education. A rationale was developed for inclusivity of student clientele that prompted a redefinition of what kind of institutions would best serve all students. Thus, the collegiate sector was expanded to include occupational schools (trade and technical as well as proprietary) and other "postsecondary institutions" (for example, foreign language schools, professional modeling schools, real estate sales schools). This extension of institutional category reflected the language and intent of the Education Amendment of 1972, in which the term *postsecondary* education was coined. The Commission on Financing Postsecondary Education provided a working definition of this concept:

> Postsecondary education consists of formal instruction, research, public service and other learning opportunities offered by educational institutions that primarily serve persons who have completed secondary education or who are beyond the compulsory school attendance age and that are accredited by the U.S. Office of Education or are otherwise eligible to participate in federal programs (National Commission 1973, p. 20). (See also Trivett 1973.)

The Commission also observed that institutional diversity and flexibility are "pivotal" objectives: "Without its accomplishment, student needs go unattended, access is a quantitative achievement, and instructional quality has no home" (National Commission 1973, pp. 379-380).

Scientific research — The creation of the National Science Foundation in 1950 ushered in the modern era of federal-education relations (Carnegie Foundation 1975, p. 7). The legislation creating the NSF

called for the initiation and support of research in mathematics, physical, medical, biological, engineering, and other sciences.

One sign of the prominence science, mathematics, and public health received in federal funding priorities was illustrated in 1963, when Representative Edith Green of Oregon presented a report to the Senate, titled *The Federal Government and Education*. Chapter 6, "Curriculum Strengthening," began with a recitation of government expenditures in 1962: $74.3 million went to strengthen and modernize the curriculum on all levels. Only $9.2 million went to higher education, but of this total, 65 percent went to improve instruction in science and mathematics.

The National Science Foundation received $5.1 million for four programs. Two million of this went for course-content improvement programs and provided support for commissions whose mission was "to revitalize, on a national scale, education in such fields as physics, chemistry, and earth sciences," and to support individual institutions that wanted to experiment with new ways of teaching science to adapt their programs to contemporary needs.

Another area receiving federal monies for curricular strengthening was the Public Health Service. Two million dollars was divided among 87 schools of public health, nursing, and engineering to expand, create and strengthen professional graduate programs related to public health problems.

Fifty-five percent of federal funds went to the National Science Foundation, 23 percent to the Office of Education, and 22 percent to the Public Health Service.

Research funding, which has a direct bearing on what is taught at colleges and universities, totalled $613 million in 1963. As the study noted, "federally sponsored research obviously has an educational impact upon colleges and universities, but it also may be regarded as a service performed for the Government, since the Government benefits directly from the results obtained, as well as indirectly" (p. 48).

In 1963, the Health Profession's Educational Assistance Act (P.L. 88-210) provided funds to expand teaching facilities and for loans to students in the health professions. In 1964, one million dollars was made available to colleges and universities to support thirty-three summer institutes; in the same year, $24 million was allocated by the National Science Foundation to 287 colleges to organize 415 summer institutes for the study of science and mathematics.

The Comprehensive Health Manpower Training Act of 1971 (P.L. 92-257) amended Title VII of the Public Health Service Act by in-

creasing and expanding provisions for health manpower training and training facilities. Also, the Nurse Training Act of 1971 (P.L. 92-158) amended Title VIII of the Public Health Service Act by increasing and expanding provisions for nurse training facilities.

According to Hobbs (1978, p. 19), just as the federal government, by funding incentives, encouraged development of curricula related to the aerospace programs in the national interest, it now is repeating that process in the medical field in the area of family practice.

A case in point is the Health Professions Educational Assistance Act of 1976 (P.L. 94-484), which continues the succession of legislation in the public health field. Significantly, this statute mandates that all medical schools must give a certain percentage of residency training to primary care (pediatrics, family medicine, and internal medicine). Furthermore, pharmacy school students must take a program called "clinical pharmacy," which includes four specific curricular components. Also, dentistry schools must have their students participate in a six-week program of clinical training in a remote site or in a medically underserved area (Hobbs 1978, p. 61). Thus, the government continues to have a direct influence on curricula in the medical area in what it construes to be in the best interests of the general public.

Comprehensive Legislation — The advent of comprehensive legislation has been traced to the National Defense Education Act of 1958 (Wiggins 1966, p. 203). Here the government began to act not just in response to social forces and educational needs but as a change agent as well. Passed after the launching of the Soviet's Sputnik, the NDEA legislation, like the First Morrill Act, was linked to national defense and the creation of practical curricula to deal with immediate manpower needs.

The National Defense Education Act (P.L. 85-865) gave assistance to state and local school systems for strengthening instruction in science, mathematics, modern foreign languages, and other critical subjects; funds were also available for foreign language institutes and advanced foreign language study and training provided by colleges and universities; and federal monies were to go toward vocational education for technical occupations needed for national defense.

In support of a comprehensive federal role, John H. Phillips, then president of Teachers College at Columbia University, spoke in 1963 before the House Committee on Education and Labor: "Education for the modern world can't be simply a matter of special emphasis at a special time. It must be undertaken and reviewed as a comprehensive,

complex, broad undertaking" (*Federal Government* 1968, p. 131). Total manpower problems must be taken into account because mission-oriented funding is inefficient: "lacking any centralized coordination, or concern for overall manpower needs as they relate to educational resources, the different agencies compete for basically the same people" (p. 131).

There are those who see federal initiative, particularly in a comprehensive package, as a challenge to institutional initiative and prerogatives. In Senator Moynihan's (D.-N.Y.) view, since the 1950's higher education has accepted federal support it did not lobby for and "had not the power to command," in contrast to elementary and secondary school teachers "who fashioned themselves into an aggressive national lobby" (Moynihan 1975, p. 128). He believes that higher education has yet to establish that it is interested in and capable of influencing legislative or budgetary outcomes (p. 195).

Two pieces of legislation, the National Defense Education Act of 1958 and the Higher Education Act of 1965, are singled out by Moynihan to support his thesis that the higher education community played no part in shaping the 1958 NDEA legislation. In 1965, Congress approved the "equal opportunity grants," or federal scholarships for undergraduate students.

> Once again higher education policy was deployed by the national government to serve external political needs, in this case to press further to fill out a central theme of the Kennedy and Johnson administration —that of equality. For the space of eight years between these two bills the direction of federal policy toward higher education was all but reversed, going from excellence to universalism. . . *Higher* education was a means of obtaining goals elsewhere in the political system (emphasis added) (Moynihan 1975, p. 153).

Moynihan observed that in FY 1975, of the money authorized by Congress over half went to support higher education — "and every penny will go on specific conditions for specific purposes and will be specifically accounted for" (1975, p. 153).

With the passage of the Higher Education Act of 1965 (P.L. 89-329), Congress began to concentrate its primary educational funding, excluding that in support of scientific research and programs, on financial assistance to disadvantaged groups who were underrepresented in the higher education population to enable them to achieve upward social mobility. Typical of comprehensive legislation was the array of educational issues addressed. This act provided grants for university community service programs, college library assistance, library training and research, strengthening developing institutions, teacher train-

ing programs, and undergraduate instructional equipment. It also authorized insured student loans, established a National Teacher Corps and provided graduate teacher training fellowships.

Wiggins describes the Higher Education Act of 1965 as "the culmination of effort in the federal response to the growing needs of higher education" (1966, p. 218). From 1965, starting with the Arts and Humanities Act, federal legislation became much more targeted as it pertained to, until then, essentially unsupported curricular areas in higher education. The act provided grants and loans for projects in the creative and performing arts, and for research training, and scholarly publications in the humanities. The International Education Act of 1966 (P.L. 89-698) provided grants to institutions of higher education for the establishment, strengthening, and operation of centers for research and training in international studies and the international aspects of other fields of study. The Adult Education Act of 1966 (P.L. 89-750) authorized grants to states to encourage and expand educational programs for adults, including training of teachers of adults and demonstrations in adult education. Then the Education Professions Development Act of 1967 (P.L. 90-35) amended the Higher Education Act of 1965 to improve the quality of teaching and help meet perceived critical shortages of adequately trained education personnel.

With this targeted legislation has also surfaced a fundamental misunderstanding within the government itself over the purposes of the legislation. A recent example occurred when a House appropriations subcommittee accused the National Endowment for the Arts of orchestrating and presiding over the panels that review proposals for endowment funds, and of failing to formulate a national policy in either the arts or the humanities. Spokesmen for the arts and humanities endowments rebutted that the subcommittee had failed to understand that the endowments' purpose is not to forge "national policy" for support to their respective areas: "The distinction here is more than semantics," [the NEH endowment maintained] . . . "The difference is absolutely crucial to the philosophy of government and the concepts of cultural pluralism and academic freedom so precious to our national tradition" (Coughlin 1979, p. 17).

Subsequent legislation with curricular influence related to federal commitment to a comprehensive program of action includes the Higher Education Amendments of 1968 (P.L. 90-575). It authorized programs to assist disadvantaged college students through special counseling and summer tutorial programs (a reflection of their unique

curricular needs), and programs to assist colleges to combine resources for cooperative uses, including closed-circuit television and computer networks. Thus, with a new clientele seeking a higher education it was necessary to develop curricula to accommodate students who might be lacking in the basic skills of reading, writing, and mathematics necessary for success in college.

The Education Amendments of 1972 have been described as a turning point in federal educational legislation affecting higher education. It established an assistant secretary responsible for education within the Department of Health, Education and Welfare, created a National Institute of Education, provided general aid to institutions of higher education, set up federal matching grants for state student incentive grants, established a National Commission on Financing Post-secondary Education, as well as State Advisory Councils on Community Colleges, a Bureau of Occupational and Adult Education and state grants for the design, establishment and conduct of postsecondary occupational education, and set up a bureau-level Office of Indian Education. It also prohibited sex bias (Title IX) in admission to vocational, professional and graduate schools, and public institutions of undergraduate education.

As Hamilton and Laufer (1975) point out, the provisions of the 1972 Amendments for the first time extend student assistance to individuals attending proprietary institutions, thus "legitimizing these schools as bona fide members of the postsecondary community" (p. 44). In this way, the curriculum of higher education received even more encouragement to reflect the occupational motivation of its new clientele. And with the move away from categorical funding of institutions in the early seventies, students, who were receiving more federal monies than ever, became the chief force for curricular shifts toward vocational subject fields and away from any residual institutional conviction about what was the most suitable education for the recipient of a baccalaureate degree in a democracy.

The Scranton Commission had advised President Nixon in 1970 that: "Government aid to higher education has been directed primarily to institutions rather than students; whatever the consequences of this strategy may have been, they have not included an increase in student influence over growth and priorities of the university. Federal financial-aid programs should be reformed to give a much larger proportion of aid directly to students in order to redress this imbalance" (quoted in Hamilton and Laufer 1975, p. 43).

A portent of this shift, with significant implications for curricula and instructional delivery systems, appeared in 1975, when then

Senator Walter Mondale proposed a Lifetime Learning Act. Although not funded, it signalled another force for change that has the potential for altering the contours of higher education and having immense curricular effect. The rationale, in Mondale's words, for his proposal was that education is "a tool for continuing development." The social groups most affected by the proposed legislation would be senior citizens, women unemployed and underemployed, and growing numbers of part-time students. Two reasons in support of the bill were: (1) colleges and universities have underutilized facilities due to enrollment attenuation of the traditional college age groups; and (2) extending the educational franchise to unserved and underserved groups. The legislation would: (1) coordinate existing efforts toward lifetime learning by all federal agencies; (2) provide support to train teachers to work with adults; (3) provide impetus to curriculum development, convert facilities to accommodate adults, and develop and disseminate television cassettes and other media; (4) study barriers that prevent lifetime learning from becoming a barrier; and (5) evaluate existing programs in this country and abroad to determine whether they would be used as models.

Hamilton and Laufer (1975, p. 45) reflect on the role continuing education or lifetime learning is likely to play in governmental policy toward higher education in the future:

> The new priorities given to career education are challenging the supremacy of liberal and graduate (traditional) education and are thus causing consternation within certain corners of the higher education community. The basic need for survival has tempted many traditional institutions of higher education to offer career education programs in competition with vocationally-oriented institutions. The net effect of fierce competition for students may eventually lead to a contradiction between educational programs and institutional goals. One may question whether or not it is viable for the continuation of a diversified system of higher education, capable of assisting in times of national emergency, to shift its educational focus purely as a result of economic market demands and political whims.

A step was taken toward focusing federal policy toward higher education in relation to other educational sectors in the interest of comprehensive coordination of funding priorities in 1969 when, during the hearings before the special Subcommittee on Education of the Committee on Education and Labor in the House, a Department of Education and Manpower was proposed under Title VI. The rationale had to do with efficiency of administration and funding, as well as the national interest: adequate recognition was needed of the fundamental importance in the federal structure of the agency that must

carry out federal policy in educational training; federal programs should be designed to eliminate duplication of effort and conflicting policies and procedures when public money is to be spent for the assistance of training and retraining of persons for employment, and when encouraging "progress" in the arts, sciences, and humanities; and

> the federal government [should] develop a consistent and effective manpower policy which would encompass both short-term and long-term national needs for education and training, and would be administered so as to strengthen public and private resources available to meet these needs without interference in or disruption of the responsibilities of state and local school systems versus private and public institutions (*Hearings* 1971, p. 15).

The wording of the Department of Education Organization Act of 1979 affirms the sentiments of the 1969 proposal and makes explicit its commitment to "equal access," to institutional "diversity," and to equitable geographic dispersion of federal education programs. It also reaffirms the prerogative of the states, the federal government performing a supplementary and complementary function, and stresses that centralization will increase accountability of federal programs to the President, the Congress, and the public, and will also reduce unnecessary and duplicated burdens and constraints, including unnecessary paperwork, on those who receive federal funds.

The bill explicitly forbids the Secretary of Education or his designee "to exercise any direction, supervision or control over the curriculum, program of instruction, administration, or personnel of an educational institution . . . *except to the extent authorized by law*" (emphasis added).

The supporters of the Education Department bill included the National Education Association, the American Association of Community and Junior Colleges and two major national student groups. Their argument was that a separate cabinet-level department would give education a stronger, more unified voice at the highest policy-making levels. Twenty-five state college presidents also endorsed the idea, reasoning that "without a separate department education policy is being made by default." Representative Eilenborn, opponent of the bill, said, "We already have too much federal control, with rules and regulations reaching right into the classroom" (Coughlin 1979, p. 13). It is to these rules and regulations that the discussion now turns.

Indirect Federal Intercession: Public Accountability Measures

The second area, accountability for use of public money, has been

the object of much controversy and, while less direct, has had no less influence on the curriculum. Federal regulations and their enforcement in the educational domain have always provided consternation to educators, who frequently view their institutional role as transmitting culture and exploring new frontiers of knowledge, not as providing a laboratory where the new democratic society can be forged.

A recent assault on federal regulation of colleges and universities was made by a coalition of academics and businessmen, one of whom, Paul Seabury (1979), expressed the concern that if regulatory patterns were not changed, then "the federal government will simply begin to employ universities as a device for social engineering" (p. 10). Stanford University President Richard Lyman commented that federal requirements for accountability constituted "overkill" and cost the university "more than is reasonable" (Jacobson 1979, p. 4).

On the issue of the cost to colleges and universities of compliance with federal regulations, Stephen Bailey saw federal regulations as attempts "to achieve a variety of social ends only marginally related to the educational objectives of colleges and universities" (Magarell 1975, p. 1). Bailey (1975, p. 1) identified a number of such regulations that have the potential to interfere with the ongong academic enterprise: equal employment opportunity, equal pay, affirmative action, nondiscrimination by age, occupational safety and health, minimum-wage and fair-labor standards, unemployment insurance, Social Security, health-maintenance organizations, pension security act provisions, wage and salary controls, and environmental protection.

The most common criticism by institutions about federal regulations accuses the government of trying to control the postsecondary sector, which has been characterized as autonomous, diverse, and decentralized. There are several reasons for concern: (1) criteria of federal auditing procedures are believed unsuitable to describe the nature of academic work; (2) outcries of obstruction of academic freedom are heard, particularly in matters touching on controversial research areas; (3) civil rights regulations (Title IX) have caused colleges and universities who are awarded federal money for curricular support to receive governmental sanctions in the form of fund cutoffs and endangered institutional autonomy; and (4) a challenge is perceived in federal agencies defining academic progress. This area of governmental action will be referred to as an *indirect* influence on the curriculum.

Federal Auditing Procedures — The literature of higher education is replete with studies of the effects government spending has had on educational institutions. Such effects includ what is perceived by the

higher education community to be overregulation, which stems from such things as federal auditing procedures that beset federal grant recipients who find it difficult to account for time as a function of governmental cost-accounting requirements (see Roark 1979). The National Science Board, the policymaking body of the National Science Foundation, sees auditing procedures as the most difficult problem facing agencies that support scientific studies and the universities that do the research because of the growing body of legislation and regulation and expanding requirements for recordkeeping and reporting. Of particular concern are laws that stipulate elaborate and cumbersome scientific review procedures, as well as regulate the use of human subjects, animals, dangerous drugs, and chemicals in federally financed research projects (Roark 1978, p. 9).

Thomas Bartlett, president of the American Association of Universities, commented that universities "should investigate reporting possibilities that would permit us to account properly to the American people under rules that are more consisent with university organization and the research process." Bartlett then alluded to a Senate bill that would permit universities more flexibility to try different accounting procedures (Roark 1979, p. 10).

For their part, auditors of the U.S. Department of Health, Education and Welfare claimed that universities could not adequately account for $86.5 million in federal research funds. The government claims that because of inadequate university documentation, it is not possible to verify the expenditures, even if properly spent (Roark 1979, p. 10). A plan being considered by H.E.W. would result in a comprehensive manual for resolving audit disputes between universities and the government. At issue, among other things, is a proviso that if universities do not comply with federal auditing procedures, they would lose 10 percent of their future grants and incur 9 percent interest on repayments. Only about 200 of the largest grant recipients are routinely audited.

A spokesman for the universities noted the difficulty of adapting "commercially based accounting procedures to the peculiarly undisciplined arena of the university," and suggested that this problem "cannot be resolved by the imposition of disciplines and sanctions" (Roark 1979, p. 10).

Rosenzweig (1978, p. 29) sums up the situation in general: "Universities no longer hold a preferred position in their relations with the government; they have lost their immunity to the burdens that all other businesses bear in an increasingly regulated society."

Academic Freedom — Outcries of a federal threat to academic freedom come as the price for much needed funding for expensive and often controversial scientific research projects. The restrictions on recombinant DNA research, which first took the form of self-regulation among scientists at the behest of NIH (National Institutes of Health), was, in Rosenzweig's opinion, the result of "an odd coalition . . . of groups . . . consisting of local politicians, environmentalists, other scientists, the remnants of the New Left, and no doubt some just plain concerned citizens" (Rosenzweig 1978, p. 30). The outcome was to take the question of scientific research that had the potential to have power social consequences (for example, genetic engineering), and place it in the public domain for resolution.

Civil Rights Regulations — The affirmative action area (Title IX of the Education Amendments of 1972) often results in curricular impact. For example, in 1975, the U.S. Department of Health, Education and Welfare moved to cut off funding to all Maryland universities because it claimed the State of Maryland perpetuated a segregated system of higher education (Winkler 1975, pp. 1, 6). Thus, the State was accused of violating the Civil Rights Act of 1964. The action followed days after a coalition of civil rights organizations charged H.E.W. with failure to enforce equal opportunity laws. The issue in Maryland centered in the historically black Morgan State College, which was to be made a university and contain the Center for Urban Studies for the state. Subsequently, Maryland reduced support to Morgan State's urban studies program and permitted a competitive program to start at the University of Maryland, College Park. Not only was there a civil rights issue, but the question of duplication of programs and inefficient use of funds was also involved.

According to a H.E.W. spokesperson, its Office of Civil Rights had required ten states — Arkansas, Florida, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Pennsylvania, and Virginia — to submit proposals for ending the separate-but-equal doctrine in their colleges and universities, a doctrine made explicit by the Morrill Act of 1890. The same spokesperson noted that the essence of the plan called for defining different academic roles and programs for individual state institutions: "This differentiation would give students incentives to choose a college by the type of program it offered rather than by racial composition of its student body. By assigning them unique functions, the predominatly black colleges were to be enhanced" (Winkler 1975, pp. 1, 6). At stake for Maryland was

the loss of $30 million in H.E.W. money plus several million dollars in funds from other agencies.

Recently, in May 1979, a federal judge extended a temporary restraining order barring H.E.W. from cutting off funds from the University of North Carolina. The university sued H.E.W. in April 1979 for threatening to withhold some $90 million in higher education assistance from the state. At issue was curricular duplication in black and white institutions. In a related issue, a federal appeals court approved the construction of a new veterinary school at North Carolina State, an essentially white institution. The plaintiffs, who represented North Carolina's first black college, argued that "[veterinary medicine] is clearly a program that would greatly enhance a [black] institution" such as North Carolina Agricultural and Technical State University, which is near North Carolina State (Middleton 1978, pp. 1, 11, 13).*

Title IX also has called attention to specific curricular areas such as the type of athletic programs available to men and women. There are many factors that may be assessed in determining whether discrimination exists, among which are opportunity to receive coaching and academic tutoring and whether the selection of sports and levels of competition truly accommodate the interests and abilities of both sexes (Shulman 1977, p. 2).

Traditionally, women's athletic programs have been more closely linked with physical education programs and not to big-time, money-raising activities of male athletes. This means women's programs have emphasized "instruction, student participation, and lifetime sports" (Dunkle quoted in Shulman 1977, p. 3). Thus, the expense of running men's and women's athletic programs differs considerably. The implications for curricular change in athletic programs for both sexes

*A number of state legislatures, in an attempt to retain financial control over state institutions and agencies that in recent years have gotten an ever-increasing proportion of their support from federal funds, have considered passing laws that would place federal funds in the state general fund to be spent only when appropriated by the state legislature. Such a law was passed by the Pennsylvania State legislature. In opposition to this approach are the American Council of Education and 31 other national and state organizations, who have urged the Supreme Court to rule against state interference in federal-aid programs. The organizations argue: "Education and research, traditionally left to the discretion of universities and federal agencies operating under carefully structured federal review procedures (e.g., outside peer review of research and training grants), may possibly be subject to political intrusion by state legislation (*Chronicle of Higher Education* 1978, p. 9).

to be in compliance with Title IX guidelines are significant (see Marmion, ed., 1979, entire issue).

Academic Progress — The issue of the government defining academic progress has centered on the Veterans' Administration's insistence on close monitoring and quick reporting of a veteran's college attendance patterns as well as the V.A.'s development of a class contract-hour figure by which veterans could either qualify for or be disqualified from their educational benefits allowance. John Worthner, Vice President for Student Affairs at the University of Delaware, suggested that "attendance is not always related to competence or completion of a veteran's program. Also, veterans in graduate study may not be required to attend every class; and then there are programs that involve clerical training and work-study" (quoted in Fields 1975, p. 9). Thus, the V.A. could terminate a course or program set up especially for veterans, based on the V.A.'s notion of what constitutes bona fide learning as measured by class-contact hours.

Fields (1975, p. 9) comments that standards of academic progress are in themselves vexing to new institutions — the type the Commission on Financing Postsecondary Education wished to support in the interests of providing an educational delivery system diverse enough to accommodate the nontraditional learner. Such institutions may not initially set up criteria for measuring academic progress and therefore may not be able to meet V.A. guidelines, which could seriously impair the development of nontraditional programs established to serve veterans (this outcome applies to other adult students as well.)*

Summary

There is evidence of federal influence on the curriculum by both direct (legislation) and indirect (accountability regulations) means. The implications of this influence for institutions of higher education as well as their role in furthering this process are important to consider. The Carnegie Commission (1972, p. 31) suggests that an essential step to finding constructive and lasting solutions to educational questions is to examine "the academic principles that have evolved over the centuries, often through bitter battles, particularly against external authorities," to determine the degree to which they

*Harold Orlans et al. (1973, p. 537-538), writing under contract to the National Academy of Public Administration Foundation for the Veterans' Administration, recommend that nontraditional programs for veterans be measured by total course hours instead of by the hours sitting in class, with benefits reflecting the total credits received.

should be followed, defended or revised in the future." The next chapter examines some forces for curricular change that have given impetus to governmental action and subsequent institutional action or reaction.

Institutional Contexts for Curricular Change

One question for the federal government after the American Revolution was whether it should channel its financial support through state governments and be directed to the support of local institutions. Supporters of American federalism were quick to suggest a national system of education supported and controlled by the central government (Rainsford 1972, p. 16). During the revolutionary period the political basis of government, and consequently the function of education, started to change: the federal and some new state constitutions provided for the separation of church and state; in this way "politics became less the prerogative of religious leadership and more the concern of all citizens who had now to be educated to their new responsibilities" (Rainsford 1972, p. 15). What type of curricular outcome at what type of institution was suitable to prepare the citizens for their place in the nascent social system in the United States?

Early Colleges and the Curriculum

In the United States the early colleges were sectarian, the curriculum centering on Christian character formation, aided by compulsory chapel, and the study of Hebrew and Greek, to facilitate translation of the Bible from the original language. The issue over the inclusion of practical subjects was given focus when the *Yale Report* was published. It has been said that the *Yale Report* set the tone for higher education in the U.S. until the 1850's (Hofstadter and Smith 1961, p. 275; some maintain until the 1870's (Rudy 1965, p. 5)). The Yale Corporation and faculty in the publication of their report were replying to members of the Connecticut state legislature who faulted the classical college curriculum, believing instead in the social efficacy of vocational or "practical" studies.

The education at Yale, as explained by the president of the college, Jeremiah Day, dealt with "intellectual culture," having as its two goals the development of the "discipline and furniture of the mind" and "expanding (the mind's) powers, and storing it with knowledge" (Hofstadter and Smith 1961, p. 278).

From *pure mathematics,* a student learns the art of demonstrative reasoning. In attending to the *physical sciences,* he becomes familiar with facts, with the process of induction, and the varieties of probable evidence; in *ancient literature,* he finds some of the most finished

models of taste, in *English reading*, he learns the power of the language in which he is to speak and write; by *logic* and *mental philosophy*, he is taught the art of thinking; by *rhetoric* and *oratory*, the art of speaking; by frequent exercises on *written composition* he acquires consciousness and accuracy of expression; and by *extemporaneous discussion*, he becomes prompt, fluent, and animated.

This view leads Day to conclude that "specializing" or studying language alone, or thematics alone, or national or political science alone cannot satisfy the "proper symmetry or balance of character" (Hofstadter and Smith 1961, p. 279).

Such an educational approach was especially suited for leaders of a pastoral, agricultural society, where there was no social necessity for the majority of people to obtain a higher education — only their leaders needed to be educated. In this comparatively tranquil context, people carried out their daily tasks and lived their lives with no expectation of or preparation for radical change in their vocational, social, or economic status. Thus, the occupational differentiation needed to support the incipient industrial state that was the U.S. in 1828 and an educational system to accommodate this differentiation were not in place or apparently needed. The effect of this curriculum was to produce a leadership most of whom would have no technical, business, or scientific skills or appreciation.

Electives and the Democratization of the Curriculum

But in the early decades of the nineteenth century, industrial growth, an expanding population, and national self-consciousness called for enlarging the educational franchise to aid national as well as regional development. Such extension of educational opportunity led to a movement toward institutional diversity. By the middle of the nineteenth century the need for scientific and technically-trained specialists to complement an industrial economy had forced retrenhcment and retreat on the part of general educationists. The need to preserve some ingredients of the classically prescribed curriculum in the wake of elective options and major concentration yielded concessions to various forms of a humanities mix, which was very dependent on institutional climate of opinion.

Charles Eliot, who assumed Harvard's presidency in 1869, sought to institutionalize the old educational ideal of liberal culture; however, in an address Eliot delivered in 1891, he had significantly tempered his advocacy: "In the comparative seclusion [of the college] the young man learns *something* of what has been done and thought in the

world, before he takes part in the world" (Hawkins 1972, p. 283). Thus, liberal culture became a vague idea that eventually yielded to vocational neceessity.

An integral part of the process of the dissolution of curricular symmetry was the institutionalization of the elective system at Harvard by Eliot. This system acted to undermine the traditional concept that certain subjects possessed intrinsic values that gave them a higher place in the academic hierarchy than more practical or utilitarian subjects.

Selected Commentary on Curriculum in This Century

With the secularization of higher education in the nineteenth century came the ultimate freeing of subject fields from value-laden necessities or the need to harmonize all knowledge, especially new knowledge, with theological or philosophical belief. In this century, reaction to the professionalization of the undergraduate curriculum has led to discussion of the place of values in higher education so the young adult student can maintain a perspective when confronted by a rapidly changing technical and scientific knowledge base. This philosophy means higher education is charged with producing responsible citizens not just for a democracy but for a world collapsed in space and time and expanded in social, cultural, and economic differentiation.

Writing in 1939, Alexander Meikeljohn saw that the "requirements" of the older curricular system were not completely destroyed but had lost their power to supply direction:

> Side by side with them the "subjects" of an "elective" scheme have claimed and taken a place. And the theory of this newer system, or lack of system, is one which serves to make all subjects equivalent in teaching value and significance. Physics may be substituted for art, literature for engineering, an elementary language for the philosophy of religion. "Any subject properly taught," we are told "will equally well with any other serve the purposes of a liberal education." It is in beliefs such as this that one sees how the essential incoherence of a social order can bring into confusion and bewilderment the activities of its teachers" (Meikeljohn 1932, p. xii).

Dressel and De Lisle (1969, p. 76) expressed the opinion that curricular review and development "surely represent a key element for response to pressure for change." They observe that faculty and their myriad departments have a vested interest in preserving the "traditional" curricular patterns of their disciplines; furthermore, curricular studies of professional groups usually reinforce the ideal of specialization and indirectly discourage innovations that interfere

with this goal. They note it took over 200 years to loosen the grip of the classical curriculum, even though the breadth requirement still is justified as an effort to compensate for the lack of curricular cohesion by "sampling if not covering all worthwhile knowledge" (Dressel and De Lisle 1969, p. 76).

One of the major attempts at curriculum organization and reform in this century was contained in the 1945 *General Education in a Free Society* published by Harvard University. The net result was no core courses were developed. The division of social sciences, sciences, and humanities was represented by twelve courses to provide the student with breadth. David Reisman in 1975 observed that Harvard's requirements were "minimal, not much more than a mild expectation that a student will take several courses otuside his own area of specialization" (quoted in Rudolph 177, pp. 259-260).

In September 1979, Dean Henry Rosovsky of Harvard announced the beginning of a new "core" curriculum at that university. The rationale behind this new attempt at general education is uncertain. As Rosovsky explained, "At the moment to be an educated man or woman doesn't mean anything. It may mean you know all about urban this or moral that. But there is no common denominator" (Rosovsky 1979, p. A-3). General survey courses of up to 2,600 titles were abandoned in favor of 80 to 100 new courses. From these, students choose eight or about one-quarter of their undergraduate program.

The most recent Harvard approach is a step in the direction of addressing what Dressel and De Lisle believe is the heart of the academic matter. They had concluded in 1969 that critics of higher education focused on instructional deficiencies and institutional climate, instead of the curriculum, which they suggest includes "a statement of objectives and a rationale for the experiences provided." They further maintained that faculty as individuals should not represent the basis for a comprehensive curricular design. Rather, "the student may become — as indeed he [she] should — the focal consideration in curricular planning," which trend they hoped their study would reinforce and augment (Dressel and De Lisle 1969, pp. 76-77).

This student-centered focus seems to have evolved. The democratization of subject fields is now accompanied by the democratization of student clientele who, in theory, and according to federal legislative intent, has equal access to and equal choice of an extremely diverse range of private and public institutions.

In 1934, Rexford Tugwell, professor of economics at Columbia University, wrote about education in an individualistic society:

> The transition of the elective system was really a growth, in education, of the system of democracy and laissez-faire. The business of university authorities was that of enriching and enlarging their offerings so that more kinds of people could go there and pursue their own educational aims in their own ways. *It was an abandonment of definition of purpose, of aim.* And this attitude of laissez-faire has dominated education to this day. Only now are questions beginning to be raised [about this] . . . there is real question whether the educational system is a social instrument or whether it is an individual one. The question still awaits an answer (Tugwell and Keyserling, eds. 1934, p. 49).

Who, then, decides what gives coherence to the curriculum? It would appear that the student develops his or her own curricular coherence based on the spectrum of courses available at the institution of his or her choice. Since the government is pledged to support institutional diversity, to reflect the egalitarian nature of the student clientele, institutional purposes, in turn, mirror their students' curricular interests. But if institutions are not providing direction or coherence but are just providing courses, specialties, and degrees, what delimits the range of course or institutional priorities?

Summary

It could be argued that the federal government has provided the curricular direction for institutions of higher education through funding patterns that have been traced in federal legislative history. There is a consistent trend toward: vocational or preprofessional education at the undergraduate level; a commitment to scientific research; extending the educational franchise in both private and public sectors through funding students instead of institutions, and through legitimizing diversity of educational delivery systems to the higher educational level. All of these curricular trends provide direction to institutions, and will be explored as a function of recent federal funding priorities in the next chapter.

Impact of Federal Funding On Curricular Direction

We have examined federal legislative patterns as they relate to curriculum. We also have looked at institutional vulnerability to external curricular influences in the absence of institutional clarity about the purposes of the educational experience, especially for undergraduates.

This chapter examines the influence federal funding has had on recent curricular direction. It is shown that the funding levels for vocational education, scientific research, and student financial aid are much higher than funding for any other educational purpose, despite rhetorical commitment to perceived needs such as adult education, foreign-language training and area studies, and the need to encourage institutional innovation and diversity. It is argued that there is a vocational intention that pervades the undergraduate curriculum and that reflects projected manpower needs in areas such as engineering, medical research and the health professions, as well as other scientific research. This argument is demonstrated by comparing federal funding data to data on number of graduates by subject field and degree level in 1975-76 and projected to 1986-87. It is concluded that curricular "vocationalization" has contributed significantly to the decline of the liberal arts idea and the minimizing of the importance of general education and has had a profound influence on the entire curriculum in institutions of higher education.

Early Funding Sources for Colleges and Univeristies

It is always useful to recall, as Alice Rivlin did in her comprehensive 1961 study of federal financing of higher education, that the U.S. Constitution does not mention the word "education." Thus, support of education in the U.S. essentially has been carried out by the states, localities, and private citizens.

Curti and Nash (1965, p. 23) observe that state financial support was not a main factor in the establishment of the colonial colleges (excepting William and Mary). Governments helped Harvard and Yale to some extent, and King's (Columbia University) only slightly, but contributed virtually nothing to other colleges. This meant that philanthropy became the major source of funding for most of the

early colleges as well as the potential source of external influence for change.

Each of the original thirteen states pursued unique approaches to establishing academic institutions according to the educational climate that prevailed in their territory. The early history of higher education in this country reveals fledgling colleges, based on the British college model at Oxford and Cambridge, that turned for financial support to philanthropists, especially those in Europe (although several colleges, such as the College of Rhode Island, sought support from philanthropists in southern colonies due to lack of their home state's support).

According to Rainsford (1972, p. 16), when American independence was achieved, there was a growing urge to develop new public symbols of nationalism and national culture. At the time there was debate over the central government's participation in and support of higher education. The central issue had to do with where sovereignty resided in the state-federal relationship: To what extent should the educational system of the U.S. be state-oriented or national?

Context for Current Federal Support of Higher Education

The belief is still widespread that the states and local governments determine types and levels of support for their community needs. In this vein, it is maintained that there can be no overall federal policy toward higher education and no ability to influence the curricular content and thrust of institutions. James Gallagher, former Deputy Assistant Secretary for Planning, Research and Evaluation, Office of Education, spoke to this point:

> No person or agency is in a position to speak for American education. There is no single U.S. educational system. Educational institutions are controlled (in 1971) by over twenty thousand school communities, the fifty states and private organizations. Each has its own performance criteria as has the federal Office of Education. Thus the goals of the educational process vary according to the standpoint of those defining them (OECD 1971, p. 21).

Yet there are those who challenge this point of view. In speaking of the 1970's, Gibson (1972, p. 29) describes a crisis of purpose* that afflicts colleges and universities due to the "power of the treasury to

*Holmstrom (1976, p. 2) describes the crisis of purpose as due to "our failure to develop a consensus about the role and value of higher education." In the absence of consensus, federal funding patterns assume special significance as indicators for institutional programming.

employ universities and professors for research and educational programs initiated by the federal government."

This crisis of purpose has been abetted by federal garnering of tax resources, which has made it difficult for states to increase their already high support for education. In the ten years between 1964-65 and 1974-75, direct expenditures for education by state and local governments have remained at 38.3 percent. There was a slight increase in state support for higher education (one-fifth of the education budget in 1964-75 to one-fourth in 1974-75). This means federal expenditures for education become crucial and assume an importance disproportionate to their levels relative to total state support for education.

Federal expenditures for all of education during 1975-76 were more than twice the $57.2 billion expended in 1967-68 (not allowing for inflationary erosion). Federal support for higher education rose from $1.4 billion in 1964-65 to $17.1 billion in 1974-75, excluding research funding.

Funding Influences on Public and Private Institutions

Both private and public colleges have become increasingly dependent on federal resources to supplement and sometimes support the main thrust of their institutional programs and mission. But the most significant trend influencing the curriculum toward practical subjects has been that of enrollment shifts away from the private sector.* The National Center for Education Statistics (Frankel 1978) notes that two decades ago public institutions enrolled nearly 56 percent of college degree seekers; now that figure is 76 percent. Private institutions receive 63.7 percent of the cost of education from the students themselves; only 7.3 percent comes from federal, state, and local governments. Public institutions receive 20.6 percent of the cost of education from students, while 70.2 percent is from federal, state, and local government. Gifts to private institutions account for only 12.8 percent of the cost of education. While business gifts to universities rose 23.3 percent in 1977-78 among 67 college and university samples, the institutions reporting the largest amount of corporate support were public universities — for example, the University of Illinois with $12.3 million and the University of Michigan with $10 million.

Since the Morrill Act of 1862, public institutions have attempted to address the practical needs of society. With more and more students attending public colleges and universities, the trend toward

*Russell Thackery disputes this finding. See "Fewer Private Colleges: No So, an Analyst Charges," in (*Chronicle of Higher Education* July 23, 1979, p. 1).

vocational and preprofessional education at the undergraduate level receives considerable reinforcement. Private colleges, still dependent on student tuition and fees to pay most expenses, are forced to compete with the public sector for students, and in many cases this competition takes the form of developing courses and programs that prepare students for the practical fields traditionally nurtured in the public institutions. Susan Nelson (1978, p. 105) suggests that the private sector is not an independent sector financially and that current public policies play a crucial role in financing private higher education. She concludes that "this financial dependence calls into question the operation dependence — in terms of administration and educational offerings — of the private sector." Essentially, in both public and private institutions, federal dollars have been a determining factor in shaping program direction.

Primary Federal Funding Areas

In a recent report to the National Center for Education Statistics, Hans Jenny (1979, p. 5) identified several major issues he believed are of national import for the scrutiny of federal policymakers: access to postsecondary education; free choice by students among institutions; diversity of institutions and educational programs; adequate development of science and scientific manpower; satisfactory supply of properly trained medical personnel; optimal medical science development; and an adequate and appropriate supply of scientific and technological manpower capable of addressing itself to the changing technical and social problems that the nation will face over time.

At present, the bulk of federal funding commitment to higher education clearly goes to students from less fortunate social and economic backgrounds and to scientific research, which means funds go to large research universities.* The 1980 appropriations for higher education

*In 1962, 38 percent of federal research funding went to ten universities: the University of California, the Massachusetts Institute of Technology, Columbia University, the University of Michigan, Harvard University, the University of Illinois, Stanford University, the University of Chicago, the University of Minnesota, and Cornell University. Fifty-nine percent of the research funding went to 25 universities, while 90 percent was concentrated in 100 institutions (*The Federal Government and Education* 1963, p. 49). In 1977, over 80 percent of all research funds went to fewer than 100 universities (Roark 1978, p. 9). In the area of scientific research, diversity has not been achieved, if in fact it is a goal. Rivlin (1961, p. 47) comments that the federal government could have radically altered this existing pattern during World War II if it had consciously sought to set up research facilities in new places, but in the interest of getting quick results it decided not to.

showed the two largest budget categories as *student assistance* to the economically disadvantaged (in the form of basic opportunity grants, supplemental opportunity grants, college work-study, national direct loans, and state student incentive grants) totalling $2.4 billion in the House version and $1.7 billion in the Senate; and *occupational-vocational* education, totalling $879.9 million in the House version and $874.9 million in the Senate. Federal *research* spending at approximately 450 major colleges and universities comes to $5.5 billion, which is 20 percent of the total federal research commitment (Roark 1979, p. 1).

Comparison of Federal Funding Categories With Subject-Field Trends by Degree Level

There is a positive correlation between federal levels of support in certain fields and interest in them. Similarly, there is a positive correlation between federal lack of support and decrease of interest in certain subject fields. This finding suggests that student choice of major may be affected by national manpower projections and federal funding emphases.

Federal funds for research and development in colleges and universities, including research, basic research, and applied research, totalled $9.24 billion, including federally funded research and development centers administered by colleges and universities (Frankel, ed., 1978, pp. 33-35). The fields showing the highest funding levels were life sciences ($2.69 billion), engineering ($2.3 billion), and physical sciences ($1.19 billion). Under "basic research," the levels were: life sciences — $908 million; physical sciences — $718.4 million; environmental sciences — $389.7 million; and engineering — $266.4 million; the funding levels in the "applied research" category were: engineering — $2.03 billion; life sciences — $1.78 billion; and physical sciences — $475.9 million.

Fellowships, traineeships, and training grants had the highest levels in the category under Public Health Service (Health Resources Administration, $464.4 million and National Institutes of Health, $165 million). Next were Department of Justice (Law Enforcement Administration, $39.4 million), Office of Education (Special Education Manpower, $38.8 million), and National Science Foundation ($28.9 million).

According to the National Center for Education Statistics (NCES) (Frankel, ed., 1978, pp. 33-35), the number of bachelor's degrees awarded in the health professions (with the exception of first-pro-

fessional degrees in fields such as medicine, dentistry, podiatry, optometry, osteopathy, and veterinary medicine) shows the most "noteworthy increase in the past 11 years, going from 15,848 in 1965-66 to 53,958 in 1975-76, a 240.5 percent increase." Engineering degrees are expected to increase between 1975-76 and 1986-87 by 48 percent, from 46,331 to 68,560. NCES observes that these trends are consistent with job market absorption of graduates in these fields. Engineers and health professionals had the lowest unemployment rate (Frankel, ed., 1978, p. 33).

Students majoring in social sciences, psychology, and the humanties had high underemployment rates. NCES comments that while their degree projections are not based empirically on market conditions, their projections indicate that social sciences and humanities will decrease as a field of interest to students, while psychology will also decrease but by a lesser amount.

Decreases are anticipated in social sciences (5 percent — 129,864 to 123,350), foreign languages (21.3 percent — 15,471 to 12,180), and mathematics and statistics (7.4 percent — 15,984 to 14,800). A large decrease is expected in the humanities — "field of letters" (50 percent — 51,515 in 1975-76 to 26,000 in 1986-87). Frankel comments that this area has already lost considerable ground, decreasing 29.7 percent since 1970-72, when it peaked at 23,253.

Fields expected to show moderate increases between 1975-76 and 1986-87 are public affairs and services (38.9 percent — 33,238 to 46,160), architecture and environmental design (27.8 percent — 8,146 to 11,690), and communications (42.4 percent — 21,282 to 30,300). A larger increase is anticipated in computer and information sciences (111.4 percent — 5,652 to 11,950).

The master's degree category shows education the largest field of award, taking 41 percent of master's awarded in 1975-76. This figure is considered due to the need for public school teachers to have that credential to qualify for higher salaries.

Fields showing a high level of increase in award of the master's from 1975-76 to 1986-87 are public affairs (17,106 to 26,680, health professions (12,556 to 22,400), and business and management (39,890 to 64,130). The only field experiencing a decrease in enrollment at the master's level is social sciences (from 16,819 in 1975-76 to a projected level of 10,400 in 1986-87). The master's degree recipient stood an 85 percent chance of not being underemployed to the bachelor's degree recipient's 76 percent.

At the doctoral level increases are projected in most fields between

1975-76 and 1986-87. NCES projects an increase of 92.6 percent in computer and information sciences (244 to 470). Education doctorates are expected to increase 50 percent (7,769 to 11,660). Engineering projections show the greatest projected decrease, 11.4 percent (from 2,821 to 2,500).

Medical degrees nearly doubled between 1960-61 and 1975-76 (6,940 to 13,426), and they are expected to increase 31.8 percent by 1986-87 (17,690). Law degrees more than tripled between 1960-61 and 1975-76 (9,429 to 32,293). Small increases are projected to 1986-87 (15.8 percent or 37,380). While dentistry is projected to remain about the same through 1985-86, other health professions are expected to increase by 42.6 percent, including optometry, chiropractic, podiatry, osteopathy and veterinary medicine. There have also been tremendous increases in the fields of pharmacy and chiropractic health treatment. (Frankel, ed. 1978, p. 35).

The direction of federal research funds is toward the life sciences, engineering, and physical sciences. In disciplinary choice the medical-related fields, a priority area for federal research funding, along with defense, show the largest gains in student enrollment at the baccalaureate and doctoral (M.D.) levels. Engineering graduates, in one of the fields receiving most federal monies — life sciences and physical sciences being the other two — are expected to practically double (48 percent increase) between 1975-76 and 1986-87. The field showing the most precipitous decline is that of "letters," which is expected to show a decrease in number of baccalaureate graduates of 50 percent by 1986-87. The conclusion that there is a vocational trend at the bachelor's level in both public and private institutions is strongly reinforced by these statistical data, and correlates positively with federal funding patterns based on national manpower needs. In what ways are institutional and program (curriculum) diversity being advanced by these federal funding patterns?

Institutional and Program Diversity

Federal Role in Supporting Institutional Diversity — In 1972, James Perkins, writing as chairman and chief executive officer of the International Council for Educational Development, looked at the organizational structure of higher education institutions in terms of requirements society imposes on education; namely, (1) protection of academic freedom, and (2) the need for continuous change and innovation. He observed that academic freedom as an issue is almost nonexistent as one moves beyond the university and into the public

sectors of control; regional, national, and international groups assume that universities are responsible for academic freedom and can defend it. So it is the joint efforts of trustees, administration and faculty to safeguard academic freedom.

In Perkins' view, the idea of innovation and change must come from external stimuli because of the forces of inertia within the institutions themselves. The academic department reflects consensual views and those who make the consensus are unlikely to encourage anything to upset it once arrived at. Departments are relatively impervious to external forces for change: "they have become specialized in their fields of knowledge to the point where faculty from other departments find it very difficult to recommend changes, even when they have a vague feeling that changes are in order. Professional specialization frequently acts so deep that faculty in one specialty are not in the best position to see into the next academic channel" (Perkins 1972, p. 9-10). Deans, in their role as a buffer between administration and faculty, can promote innovation and change only by proceeding with extreme caution. (Perkins recommends rotation of department chairpersons as a way to encourage the process of innovation.) Finally, college and university presidents, while they should be in touch with new requirements and new ideas, often abdicate their academic leadership by spending most of their time pursuing fund-raising activities. Perkins concludes that the external agencies have much more potential as innovative forces: "Private foundations have been vigorous agents for innovation; however, their available funds are getting smaller, since the budget for higher education is increasing faster than the income of foundations. . . . The effect of these developments will be to shift the sources of innovation from foundations to federal agencies" (Perkins 1972, p. 11).

The Fund for the Improvement of Postsecondary Education (FIPSE) came into existence in 1973 to strengthen institutional program diversity and to assist institutions to develop innovative courses, programs and structures. Title X of the Higher Education Amendments of 1980 gives statutory authority to FIPSE, which among other things will provide assistance to: (1) encourage the reform, innovation, and improvement of postsecondary education and provide equal educational opportunity for all; (2) help to create institutions and programs involving new paths to career and professional training, and new combinations of academic and experimental learning; (3) help to establish institutions and programs based on the technology of communications; (4) promote changes in the internal structure and

operations that can help clarify an institution's priorities and purposes; (7) introduce reforms in graduate education and in the structure of academic professions; (8) help create new institutions and programs for examining and awarding credentials to individuals and introduce reforms in current institutional practices to abet this goal.

Chester Finn (1978) comments that colleges and universities have been the prime beneficiaries of FIPSE program funds for curricular and pedagogical innovation, but suggests a danger inherent in the process of such categorical grants:

> Categorical programs differ from general institutional support in several essentials, the most important being that colleges and universities cannot count on the funds. Instead, they must apply for them, agreeing in their proposal to do whatever it is that Washington wants done, be it teacher training, remedial instruction for disadvantaged students, or the development of a new sophomore year humanities curriculum. Agency officials evaluate these applications, accepting some, denying some, and negotiating changes in others. Once a grant or contract is approved, funds may flow for one year or several years, but only in a few cases, such as the annual land-grant payments, are they regular and predictable.* This makes categorical payments a valid and effective means of attaining limited objectives, be they the government's or the college's. But the programs are usually complicated and cumbersome to administer, and their proliferation invites increased federal regulation of higher education. Moreover, they confer uneven fiscal benefits on individual colleges and universities, and these differences may be wholly unrelated to the academic quality, competitive position, or economic condition of the recipients.

*And these are predictable only because Congress has consistently restored them to presidential budget submissions that omitted them. Small categorical programs in higher education are frequent targets for Office of Management and Budget examiners (Finn 1978, p. 120).

The 1980 funding level for FIPSE is $13 million. By comparison, one program, Comprehensive Assistance to Undergraduate Science Education (CAUSE), a part of the Division of Science Education Resources Improvement (SERI) of NSF, was funded at $13.3 million in 1979. Compared to FIPSE, this money was divided among a small number: 72 of 307 proposers. FIPSE received between 1,500 and 2,000 proposals, of which 350 to 400 were funded (Hendrix 1979).

FIPSE has just published new program guidelines that include an emphasis on curricular development to aid programs that have as their goal *learner-centeredness*. This goal used to signal programs to serve the nontraditional student. Now nontraditional students are considered a constant in higher education institution and are no

longer being spoken of as a separate entity. The curriculum for these students takes the form of experiential learning (internships, for example) that are an integral part of the college or university curriculum, including emphases that focus on blacks and women, among other minority groups. (These programs or courses act to mainstream this clientele to prepare these students for socioeconomic advancement, and include curricula with a cross-cultural basis, including foreign language and area studies.)

The new organizing framework for FIPSE program grants is: quality programs for all postsecondary students (of which nontraditional students are one segment), the full-time worker/learner (thus, programs and courses for part-time students), active modes of learning (experiential learning), and knowledge and abilities (including scientific literacy, and values and personal development). There is also concern for programs that focus on leadership development for administrators who must identify and deal with obstacles that stand in the way of "learner-centered" innovation, and a tacit assumption that the student is the change agent in postsecondary institutions, which the academy should not only recognize but accommodate. The question arises as to whether at its present funding level FIPSE can achieve its objective on a large enough scale.

Federal Role in Promoting Curricular Diversity — A further comparison is suggestive of the difference between the intent of educational reform as mirrored in federal funding support and as embodied in legislative intent.

The Higher Education Amendments of 1980 show a new Title VI focusing on foreign studies and language development, with a number of categories under which funds will be made available.* Funding for international education in 1960 was $83.5 million and rose to the highest level in 1968 at $272 million. The 1978 estimated funding is $97.4 million. The National Center for Education Statistics shows

*Grants and contracts are authorized in the following categories: (1) language and area centers and programs ("for the purposes of establishing, equipping, and operating graduate and undergraduate centers and programs for the teaching of any modern foreign language, for instruction in other fields needed to provide a full understanding of the areas, regions, or countries in which such language is commonly used, for research and training in international studies, and the international aspects of professional and other fields of study"); (2) centers for advanced international studies; (3) strengthening undergraduate programs in international studies (". . . to institutions of higher education, or combinations of such institutions, to assist them in planning, developing and carrying out a comprehensive program to strengthen and improve undergraduate instruction in international studies"); and (4) promoting cultural understanding.

that the number of students receiving bachelor's and master's degrees in foreign language study has dropped steadily since 1964, and should continue to do so through 1986-87. Only the doctoral level will show a slight increase over 1975-76 levels. This could be interpreted to mean that graduate students would be the prime beneficiaries of federal funding in the foreign language area, a further indication of the decline of the idea of general education and the place of language study in the undergraduate experience. This impression is reinforced by the "practical" rationale of the Title.*

A recent President's Commission on Foreign Languages and International Studies commented that the number of American students studying foreign languages has declined so sharply in the past decade that the U.S. has developed a "scandalous incompetence" in foreign languages which is harmful to the conduct of foreign policy (*Strength Through Wisdom* 1979). The proposal made by the Commission would cost $100 million, and would include an incentive grant to institutions in the amount of $20 million — $65 a year for each student enrolled in language courses. The President's chief domestic affairs advisor, Stewart Eisenstat, said he expects the new Department of Education to "take the recommendation to heart." Eisenstat said the Commission proposal would be given "careful consideration in the budgetary process" (Feinburg 1979, p. A-3).

The Commission also asked for federal spending for advanced university programs in international studies, both in the U.S. and elsewhere, and recommended that universities restore their foreign language requirements for undergraduates, but acknowledged that the Government could not tell institutions to do this!

It is a fair assumption that some funds from FIPSE will find their way to support curricular endeavors in the international-education/foreign language area. It is noteworthy that the President's Commission used the incentive of federal funding for students taking foreign languages as a prod to stimulate the initiative of colleges and universities, who increasingly have made decisions to eliminate programs, such as foreign language study, based on economics (not enough students majoring in the subject) rather than educational premises.

*The Congress' rationale for emphasizing this area is that the well-being of the United States and its citizens is affected by policies of other nations; therefore the U.S. must provide its citizens with access to the information that will enable them to make informed judgments about international policies and actions. So the purpose of this legislation is to support educational programs that will increase the availability of such information to students in the United States.

In summary, the absence of an institutional point of view in the curricular area leads, ineluctably, to external curricular influence based on governmental legislation and subsequent funding patterns in support of that legislation.

Conclusions

This study has examined the effects of federal action on the curriculum in institutions of higher education in the United States. It was suggested that federal influence in the United States has taken two forms: (1) overt action in the form of legislation, which has intensified in the higher education arena since the 1950's; and (2) regulations instituted to superintend the spending of public money in the interests of governmental accountability, which also has intruded on curricular decisions at colleges and universities.

An examination of federal funding patterns showed that the direction of federal spending has supported the vocational/practical ends of education, associated with public higher education since the Morrill Act of 1862, by the formation and encouragement of new types of institutions, and by legislation that has supplemented vocational/technical programs at these institutions. Such legislation includes scientific research for national defense (both basic and applied) and for civilian purposes, especially in the public health field; and the pursuit of an equalitarian social system using student financial assistance to foster socioeconomic well-being of educationally disenfranchised citizens.

General Observations

Because both public and private institutions are susceptible to external influences, caused by financial dependency on governmental and corporate support, as well as lack of a coherent institutional curriculum, especially at the undergraduate level, the federal government has in essential ways exerted a disproportionate influence on and defined the nature of the higher education enterprise. This is true even though the federal government funds at levels well below that of the state governments. To an increasing degree, it is the federal government, through its agencies, that acts to stimulate curricular innovation and bring new types of programs into being, as well as suggest needed curricular emphases by legislation in the public interest.

A study done by Richard Johnson (1978, p. 51) for *Change Magazine* showed that most postsecondary institutions — the exception being community colleges — look upon small elite liberal arts colleges as the primary innovators. It is especially significant that Johnson's

study showed institutions that receive research funds and that have high student-aid enrollment are least likely to be labelled innovative. Thus, the very institutions that need to take the most initiative in curricular innovation are viewed by themselves as the most conservative.

Governmental influence in the United States has been in the interest of satisfying social and political prerogatives, and with the politicization of the higher education community, satisfying such prerogatives through curriculum is all the more likely. Gibson (1972, p. 29) maintains that universities have capitulated to national special interest groups and that higher education itself has become one of these groups, competing with other sectors for public money. A look at the budget of the federal government for higher education and the way it is distributed among the departments and bureauracies of the government shows those entities themselves are special interest groups — thus necessitating centralization to promote efficiency and effectiveness of funding efforts.

It was pointed out that the reason for the splintering of institutional identity can be found in the dethronement of the "idea" of the university set apart from society, which somehow establishes a curricular coherence that ultimately is in the best interest of society (as with the curriculum defended by the *Yale Report*). Society here is, by definition, purposeless and institutions of higher education are the agents of purpose.

This dethronement is captured in Clark Kerr's idea of the contemporary American university being a "multiversity"; thus, the unity of the university derives not from its function but from its administration. It can develop only to the extent that it can "respond to varying demands, accept the coexistence of basic and applied research, train scientists and high-level professionals (as well as middle-level technicians), and combine teaching and research" (Touraine 1974, p. 256). The plentiful and often conflicting areas that constitute the new multiversity are not to be reconciled but coordinated. Thus, the role of the administrator supercedes that of dean and faculty in maintaining institutional stability, accountability to the public, and institutional compliance with national goal statements for education, and the president takes on the role of corporate executive.

This view means that there can be no essential definition of purpose from within the university. As Touraine (1974, pp. 125-127) observes, the university then becomes subject to political (external) definitions of purpose, making the academy and its programs subject

to shifts in federal funding priorities, which are often unpredictable and at odds with institutional objectives — if they have been articulated.

There are some constants to federal funding priorities. There has always been an implicit and explicit vocational thrust to federal legislation. The production of engineers, agricultural experts, doctors, and scientists, and the corresponding undergraduate curriculum to prepare these future professionals, has always been encouraged by federal as well as corporate money. Even student aid to the disadvantaged and middle-income population is given in expectation that these students will become productive members of the labor force, or upwardly mobile, not that they will be educated according to an institution's outcome statement. Hence, the most telling result of federal influence on the college and university curriculum has been the erosion of the liberal arts idea and the professionalization of the undergraduate curriculum.

But curricular displacement away from humanistic goals can also be understood as the failure of the institutions themselves to develop goal statements and implement curricular reforms totally apart from federal legislative priorities and funding. This can be interpreted as much as a failure of institutional will as a lack of institutional resources.

It is often asserted that the federal government cannot, and at the very least, should not orchestrate curricular reform. Since institutions of higher education have not taken the initiative, the federal government undoubtedly will continue to supply direction by fiat.

Daniere (1973, p. 151) comments that the major challenge for postsecondary education in America concerns the "establishment of new curricular and career structures in higher education, structures that will respond more flexibly to the changing needs of the labor market and to the changing aspirations of students." Yet flexibility has not seemed to be the response of either the government or the institutions in the main arena of postsecondary institutions. The movement has been toward more control in the interests of conserving scarce financial resources.

George Kaplan (1978, p. 87) suggests that the Carter Administration and Congress need to create a "balance of respect and authority that a rational federal policymaking system dictates"; and looks to the new Department of Education to bring "permanent order out of today's 'adhocracy.' "

Hamilton and Laufer (1975, p. 45) look to long-range institutional

planning in concert with long-range federal and state planning for change to provide the stability needed to reach "ascribed goals."

What are processes to ensure a stable and informed governmental commitment in the best interests of United States postsecondary institutions?

Recommendations

It is recommended that:

- There is need for the development of policy initiatives on the part of the federal government that take into account their potential and actual impact on college and university curricula.
- The federal government should think through the implications of federal regulations for the curriculum in concert with representatives from the higher education community to a greater extent than has been the case before these regulations are implemented.
- Institutions of higher education should evaluate the influence of federal funding on their curricula, especially at the undergraduate level, to determine if and how institutional goals are being served.
- Colleges and universities should take the initiative to articulate more forcefully their ideas about the purposes of education in a democracy through their lobbyists and seek funds that support curricula to realize these purposes.
- Institutions of higher education should evaluate whether they are relying too heavily on federal initiatives to define their educational mission.
- Institutions and the federal government should ponder whether serving the public purposes of education by encouraging curricula that will produce needed manpower does at the same time support the national goal of a well-educated citizenry capable of making decisions in the best interests of themselves and society.

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